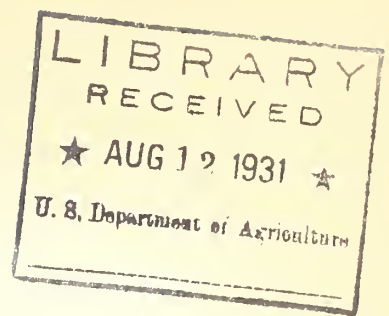


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STEM RUST AND BARBERRY NEWS

Issued by

Division of Barberry Eradication

Volume II

August 1, 1931

Number 7

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Bureau of Plant Industry
U. S. Department of Agriculture

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EPIDEMIOLOGY

(Reported by Miss Laura Hamilton)

Examination of slides that were exposed throughout the eradication area is well under way, and correlations of the results are being made as rapidly as possible with wind currents, rainfall, and the appearance of stem rust in the field. Many boxes of slides remain to be examined, however, and since the staff consists of Mr. Walter alone, it will be some time before the results in all cases are available for distribution to those who made the exposures.

Progress also is being made in the identification of physiologic forms. More than 100 collections of wheat stem rust have already been identified, comprising for the most part a small number of forms. As previously mentioned, these are the forms that were found most commonly in 1930. In addition, a special effort is being made to identify aecial collections, and collections of uredinia on cereals near barberries.

Head samples now are being collected in the spring wheat area on which to base rust loss estimates. In order that estimates for North and South Dakota and Minnesota will be comparable, Mr. Butler, Mr. Ukkelberg, and Mr. Walter will work together in examining the samples and arriving at final figures. (July 23)

EASTERN REGIONOhio - 8 East Broad Street, Columbus - Harry Atwood

Recently several vocational agriculture teachers have sent specimens of infected wheat straw to this office to ascertain whether or not the infection was black stem rust. They have also asked if any barberries have been found in their communities. Some have said that they were doing some scouting for common barberry in the vicinity of the rusted grain fields. A number of times vocational agriculture teachers, located in the territory where we are doing intensive survey have spent as much as a day or more working with the agents.

On July 15, Mr. Work, County Extension Agent for Logan County spent the entire day with the Leader in various sections of the county where survey is in progress. The time was used in observing an area of barberries recently treated, inspecting several well rusted grain fields, examining signs placed beside barberries growing near the main traveled roads, and talking with farmers relative to barberry eradication. Mr. Work seemed well pleased with the progress of the work in Logan County and with the cooperation received.

While working in Perry Township, Logan County, the agents found several escaped barberries along a creek and in fence rows. Upon inquiry they found that more than sixty years ago, Mr. Elliot, the owner of the farm, had brought barberry from Massachusetts and planted it around his farm as a hedge. Several years later he observed that wheat grown in fields close to the hedge became rusted and some times the rust was so severe that the entire crop was practically ruined. Later he destroyed the hedge.

The men working out of West Liberty report that they have just finished salting more than 350 barberries on one farm. (July 23)

Indiana - Purdue Experiment Station Annex, West Lafayette - Wayne E. Leer

The field men worked in Decatur and Johnson Counties. One extremely large barberry was found in Decatur County about two miles east of Westport. This community has suffered severely from stem rust for several years, and survey was started in Decatur County largely as a result of requests from farmers in this section of the county. The bush was located on a very high spot and could easily have spread rust over that entire section of the county. This bush is considered the most important one found in Decatur County to date as it was located in the center of a community which has been bothered with stem rust for many years.

Four radio talks have been planned for presentation over stations WGBF, Evansville, and WKBF, Indianapolis. The talks over station WGBF were scheduled for July 1, 8, 15, and 22, between 11:35 and 11:40 a.m. The talks over station WKBF were scheduled for July 9, 16, 23, and 30, during the noon hour. (July 20)

Illinois - Post Office Building, Urbana - Robert W. Bills

The second survey of Ogle, DuPage, Kane, and Lake Counties is progressing rapidly. The heavily wooded areas are being left for fall work and the force is being used to clean up small wooded areas and open territory. All of the work in these counties will be completed during the year with the possible exception of the east end of Ogle County. This

is comparatively free of bushes, judging from the results of the first survey and the educational campaign conducted this spring by Mr. Davis.

Educational materials are being assembled for distribution to the schools of 15 western Illinois Counties at the fall institutes. An intensive school campaign will be begun in another of the northern Illinois Counties as soon as school opens in September.

Stem rust has developed rapidly in northern Illinois during the past three weeks. The late spring grains are infected generally. Some damage has been done to the oat crop. Barley has not been so severely infected. The rust combined with hot weather has caused many of the plants to fail to fill. As many as 50% shrivelled kernels have been found on some plants.

Mr. L. M. Ames spent July 15 and 16 in Illinois. (July 24)

Michigan - Michigan State College, East Lansing. - Francis B. Powers

The Leader returned last week from the southern part of the State where second survey and resurvey work are being carried on. A resurvey of St. Joseph and Cass Counties has been completed and 337 barberries destroyed. During the three weeks that second survey work has been carried on in the southern counties 133 barberry bushes have been found and destroyed. The squad working in the upper peninsula eradicated a hedge of 297 large bushes on a railroad right-of-way in Marquette County. An escaped area was found near this location and to date 1,100 bushes have been removed. Those on the railroad right-of-way had to be dug and the place leveled.

Until a week ago very little stem rust was observed on either barberries or grain in southern Michigan. Now the rust seems to be general. Within the past few days it has appeared in the upper peninsula. Wheat and rye in the southern part of the State are being cut and threshed and the telial stage of rust is found. Oats and barley are still green and the uredinal stage of rust is very prevalent.

Dr. Moses Levine called at the Barberry Eradication Office on July 22. Mr. Lawrence Ames, who is doing inspection work under the new quarantine law, is spending a few days in Michigan. (July 23)

Wisconsin - State Capitol Annex, Madison - Vern O. Taylor

Active survey has continued in Wisconsin with very much the same results as have been reported. All squads are finding bushes with the exception of the crew doing second survey in Grant County.

The area of escaped bushes in Ozaukee County has been worked to satisfactory boundaries, and the crew has been transferred to Green Lake County where they will begin work on the Lawsonia Country Club estate. This property contains over a section of land which is heavily wooded and infested with bushes.

The grain crops in Wisconsin are good as a rule. Little damage can be definitely charged to stem rust with the exception of late oats. This crop will be relatively light due to the combination of rust and dry weather. Leaf rust is causing very little damage this year. Orange leaf rust has been found, but the infections are local and in most cases light. Only a few reports of crown rust have been received, and the Leader's observations on a great number of fields verify the reports coming from the field men.

Mr. Arnold Ullstrup, assistant leader, talked to 400 4-H Club members at the State Club Camp held at Madison. The talk was very interesting and well received by all present. The motion picture, "Rust" was also shown at the meeting.

The club camp which included Marquette, Waushara, Waupaca, Outagamie, Winnebago, and Green Lake Counties, was also visited by Mr. Ullstrup and he estimated the attendance to be 200 members.

The county agents are lending splendid cooperation with several of them reporting locations. A hedge of 20 fruiting bushes was reported by county agent Weaver of Manitowoc County. The hedge is growing in the city of Manitowoc and the owner states that it was planted in 1919.

The assistant leader made a short trip through the counties bordering on Lake Michigan for the purpose of epidemiology studies. The Lake retards the season in these counties, but the reports are much the same as those for the interior. Late oats are quite heavily rusted while the other crops are well matured.

With the total of agents, State men, and laborers engaged in survey amounting to 44, it has been a problem to arrange a budget within the new allotment without wholesale reduction of the force. The tentative budget for the remainder of this season provides work for the entire force until September 12. This brings the field season to a close one week earlier than originally planned and makes it possible for only one squad of laborers to work through October instead of the two crews as previously planned. (July 23)

WESTERN REGION

Minnesota - University Farm, St. Paul - Leonard W. Melander

In spite of the hot weather the intensive survey has made progress since July 1. In Dakota County the progress has been slow due to the thick

woods and underbrush along the Mississippi north of Hastings. In Rice and Goodhue Counties the progress has been rather rapid because very few extensive woodlots have been encountered. If any large areas of dense woods are encountered, it is planned to survey them in the late fall after the leaves of other plants have fallen. The farmers are giving the field men good cooperation.

On July 8, the fifth annual simultaneous stem rust survey was made. Only two routes were covered this year. The grain fields on light soil were affected by the hot weather. Those on clay soil seemed to be in good shape. A week later the spring wheat was ripe and on clay soils was well-filled with no apparent stem rust damage. This applies to the southern route through Nicollet County. The northern route through Wright, Meeker, Kandiyohi, and Chippewa Counties, the stem rust was slightly heavier. This perhaps was due to more rainfall. There is a probability that there will be some stem rust damage in these counties.

We are constantly getting barberry reports from boys and girls. We have awarded more than 120 medals to date. Too much can not be said of the value of the medal system for obtaining locations of common barberry. (July 22)

Iowa - Morrill Hall, Iowa State College, Ames - D. R. Shepherd

A total of 24 field men are now destroying barberry bushes in Woodbury, Greene, Carroll, Plymouth, and Webster Counties. Mr. Brown, who has been on rust work and pick-up work during the early part of the field season, has joined the field force now and is doing survey work in Greene County. The work is progressing quite rapidly in Webster, Carroll, and Plymouth Counties. In Greene and Woodbury Counties the men have been working river territory so they have not been making very rapid progress. A total of 1,252 bushes and 672 seedlings was found during the first two weeks in July on 68 properties in these 5 counties.

The Leader visited Buena Vista College at Storm Lake and Morning Side College at Sioux City last week. At Sioux City he spoke to a group of biology and general science students. Most of these students were teachers who are going to teach in rural schools next year and they were eager to have the information pertaining to the work we are doing with the rural schools.

Practically all of the wheat, barley, and early oat crops of Iowa have been harvested. The late oats are either mature or in the hard dough. Stem rust has been prevalent in the wheat, barley, and oat crops this year. Infection, however, has been very slight with the exception of that found in late oats. There will be a slight loss in late oats from stem rust. This crop, however, is only a small percentage

of the total acreage of oats produced, so the loss in the entire oat crop will be very slight. The barberries that have been found in Iowa so far this season have, in most cases, shown no signs of infection. Those that were infected seemed to be infected much more heavily than they were last year. The barberries found in Linn, Benton, and Plymouth Counties showed an extremely heavy infection. (July 18)

District No. 1 - State College Station, Fargo, N. Dak. - George C. Mayoue

Although no large finds have been made in Montana, agents working in escaped areas in the western part of the State are continuing to locate scattered bushes.

With their first fair scheduled for August 24-28, the people of Great Falls and area are looking forward to the best exposition of its kind in the northern part of the State. Mr. H. F. DePue, at whose Richland County Fair, Sidney, the Death Cell created so much interest last year, is manager of the new enterprise. The Rust Buster display now being shown in North Dakota will be placed at the Great Falls fair, later to be sent to Miles City and Billings.

Holding close to Montana's zero line for rust, North Dakota reports continue to indicate only a small infection with estimates running from a trace to 4 per cent in the Red River Valley. Possibilities of losses grow more remote as the majority of crops are reaching the soft to hard dough stages. The rye harvest is practically complete while in some sections the cutting of wheat will soon start. As for the crops through the State, conditions remain much the same as before with the extreme of some splendid crops in the Valley contrasting with the barren sunbaked fields in the northwest.

Now in its third week of tramping, the model Rust Buster display is continuing to prove itself the most attractive feature ever used with barberry eradication demonstrations in North Dakota. Of the first day's estimated attendance of 12,000 at the Grand Forks State Fair, more than 3,000 were reached through the demonstration. Groups as large as 40 gathered to watch the mechanical school children hunt and kill the barberry growing beside the rusted grain field.

Only two farmers have attempted to convince the fair attendants that rust on grain comes just the same way as rust on the plow share that is left exposed to sun and rain. Most of the fading opposition minority seems to be softened by the appeal being made through their children.

But to a few, hardened beyond any new impressions by 50 and more years of "farmin", "pigs is pigs", "ashcans is ashcans" (see Time, July 20) and "Rust is Rust", be it on wheat, roses or the old sulky behind the barn. (July 22)

District No. 2 - State College Station, Brookings, S. Dak. - R. O. Bulger

Second survey work in Sherman County, Nebraska was completed last week. The survey was begun in this county last year but was not finished at the close of the barberry season. The squad of men has moved to Valley County for the present, but may move again to open survey activities in a different county in the near future.

Field men in South Dakota counties are actively engaged in hunting the rust-spreading bushes and have reported an exceptionally fine attitude on the part of the people in general. In spite of hard times made still harder by drought, and grasshopper epidemics resulting in poor small grain crops, if any, the people have exhibited an excellent attitude toward barberry eradication in both Nebraska and South Dakota.

Barberries have been found in three of the four counties receiving survey in South Dakota this year. A large number of bushes is not expected to be found in any one of these counties. However, one planting found in Edmunds County may have been largely responsible for rust epidemics which have occurred noticeably in that and neighboring counties during the past few years.

A total of 10 club camps was attended in June at which barberry instructional work found a place. The playlet "The Trek of the Common Barberry" was staged at the various camps and reports indicate that it is a highly educational and valuable one-act play. One more club camp will be reached this month at Springfield, S. Dak.

Mr. Yount has a schedule of eight club camps to meet during the month of July. He is combining his travel for this purpose with rust survey, resurvey, and other informational work. His calendar of work for July is exceptionally heavy.

Plans are under way for barberry demonstrations at the Tri-State Fair which is held in Aberdeen, S. Dak. the latter part of August and the State Fair at Huron, S. Dak. the first part of September. Demonstrations also will be held at the Nebraska State Fair, and probably at some county fairs. (July 21)